PROJECT TITLE : PRODUCT RESEARCH

PERIOD COVERED : MARCH 18 - APRIL 17, 1981

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Analysis of Plasticizers in Filters

The $(GC)^2$ method developed for triacetin measurement (1) has been applied to the analysis of triethylene glycol diacetate in filters of competitor brands. This completes our review of the triacetin situation (2).

In Table 1, information concerning country, manufacturer and brand name, as well as triacetin and triethylene glycol diacetate (TEGDA) concentrations in cellulose acetate filters are given.

A simple method to analyse (simultaneously) polyethylene glycol (Carbowax 400, 550, 600 and 750) by using direct derivatisation of the filter extracts did not give the expected results. Another method should be developed to analyse these plasticizers.

Capillary Columns

- 2 fused silica capillary columns were prepared for Lecoultre-E. (GC^2/MS) and one for Moser-F. (Headspace Analysis).
- A 50m x 0.5 mm i.d. glass capillary column is being treated for Moser-F.

Adsorbents

On a request from Product Development (3), a new type of adsorbent was investigated.

Name of adsorbent : Diatomite
Manufacturer : Wüthrich - Yverdon (Switzerland)

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Retention of gas-phase components :

- In powder form : impossible to use Diatomite

- Impregnated on pumice stone :

Organic gas-phase	: no retention
NO	: 10% retention
CO	: 13% retention

REFERENCE

(1) Genoud-Y. "The Analysis of Triacetin in Filter Material by Capillary GC" - Analytical Method (February 1981).

(2) Genoud-Y. Monthly Report, pp. 1-8 (December 1980).

(3) Letter from Krasna-B. to Genoud-Y., (March 23, 1981).

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Table 1 : Triacetin and Triethylen Glycol Diacetate (TEGDA) in Competitive Brands

Manufacturer	Brand Name	Triacetin CA Filter %	TEGDA CA Filter %	Triacetin/ TEGDA proportions
SWITZERLAND				
BURRUS	Parisienne	6.7		
	Parisienne Super	8.5		
	Kent Special (mild)	5.4		
	Select	6.8		
	Select extra légère	7.7		
	Select spec. mild	8.7		
	Gallant Trend	8.0		
	Gallant Filter	7.3		
	Virginie Filter	0		
BAT	Marylong	7.0		
	Marylong extra	0	8.2	0-100
	Marocaine	0		
	Marocaine mild	0		
	Marocaine extra	0		
	Krone Extra mild	8.6		
REYNOLDS	Camel Filter	6.0		
	Camel mild	6.1		
LAURENS	Dunhill Intern.	9.3		
	Dunhill Sup. mild	11.0		
	Stella Super	0	10.4	0-100
	Stella Douce	0	10.0	0-100
RINSOZ-ORMOND	Gauloise	0		
	Gauloise Jaune	0		
	Gauloise Disque d'Or	0		
REEMTSMA	R 6	4.2		
	Reemtsma	0		
GERMANY				
BAT	Krone	9.9		
	HB Kronen Filter	12.2		
	Pall Mall King Size	12.2		
REYNOLDS	Camel	8.1		
	Reyno Menthol	10.0		

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Manufacturer	Brand Name	Triacetin CA Filter %	TEGDA CA Filter %	Triacetin TEGDA proportions
AUSTRIA T.	Hobby Extra	10.9	0	
REEMTSMA	Ernte 23	7.9	0	
	R6	10.1	0	
	Peter Stuyvesant	7.6	0	
BRINKMANN	Dunhill Intern.	6.8	0	
	Peer 100	7.4	0	
UK				
IMPERIAL T.	Vanguard	2.2	0	
	John Player king size	5.8	0	
	John Player special	8.4	0	
	John Player Vanguard	4.0	0	
	Lambert-Buttler	7.1	0	
	Lambert-Buttler extra mild	9.3	0	
	Embassy No. 1	5.1	0	
GALLAHER	Benson and Hedges	7.8	0	
	Gallaher Lights	7.5	0	
	Winston Light	8.6	0	
	Silk Cut	8.4	0	
CARRERAS ROTHMANS	Peter Stuyvesant			
	Peter Stuyvesant extra mild	9.0	0	
	Dunhill King Size	12.5	0	
	Rothmans King Size	6.0	0	
BAT	555	10.4	0	
FRANCE				
REYNOLDS	Winston King Size	6.4	0	
	Camel	6.4	0	
	Camel mild	5.0	0	
SEITA	Gauloise Caporal	0	0	
	Royale	9.1	0	
	Rich and Light	0	0	
	Gallia	7.4	0	

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Manufacturer	Brand Name	Triacetin CA Filter %	TEGDA CA Filter %	Triacetin TEGDA proportions
TURMAC INT.	Peter Stuyvesant	8.4		
	Rothmans KS	13.5		
CARER. ROTH.	Dunhill Intern.	11.4		
LANDEWYCK	Kent spec. mild	5.1		
ITALY				
REEMTSMA	R6	5.2	0.3	94.5-5.5
	Astor mild	8.2		
BAT	HB Crown filter	12.9		
BRINKMANN	Lord Extra	6.3	2.0	76-24
MONITAL	MS International	6.3		
	MS King Size	7.7		
	Lido F.	5.8		
	Gallant	0	9.7	0-100
AUSTRIA T.	Milde Sorte	8.4		
	Hobby Extra	10.8		
REYNOLDS	Winston	6.1		
CARRERAS ROTHMANS	Rothmans King Size	9.2		
LANDEWYCK	Kent F.	5.9		
BELGIUM				
TABACOFINA	Belga	6.9		
GOSSET	St. Michel F.	9.2		
CINTA	Bastos	9.4		
	Gauloise Caporal	0		
ODON/WARL	Boule d'Or KS	8.2		
LANDEWYCK	Kent	5.5		
INTER.SALE	Peter Stuyvesant	9.1		
JUBILE	Richmond	10.0		

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Manufacturer	Brand Name	Triacetin CA Filter %	TEGDA CA Filter %	Triacetin TEGDA proportions
AUSTRIA				
AUSTRIA	Milde Sorte	9.4		
HOLLAND				
BAT	Gladstone Mild	7.8		
	Belinda	7.8		
TURMAC INT.	Pall Mall Export	10.7		
	Peter Stuyvesant	10.9		
REYNOLDS	Camel	5.6		
LAURENS	Caballero 1	7.2		
	Caballero 2	7.4		
NIEMEYER	Roxy Dual	7.3		
YUGOSLAVIA				
TVO. ROVINJ.	Milde Sorte	6.0		
TVO. LJUBL	Astor Mild	7.9		
TVO. ZAGREB	Lord Extra	8.8		
DUVA. VRAN.	Winston KS	8.4		
NIS	Kent KS	6.9		
TUT. PRILEP.	HB Crown Filter	8.7		
FINLAND				
AMER. TUPP	Colt	8.9		
NORWAY				
SUOMEN T.	Pall Mall KS	0.4	10.3	4-96
	Pall Mall Mild	1.2	8.8	12-88
AUSTRIA T.	Milde Sorte extra mild	11.9		

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Manufacturer	Brand Name	Triacetin CA Filter %	TEGDA CA Filter %	Triacetin TEGDA proportions
TIEDEMANNS	Prince of Blends	4.9		
SWEDEN				
SWEDISH T.	Blend F.	8.3		
	Commerce	10.9		
BLENDS	Prince Skan.	4.3		
DENMARK				
SKANDIN T.	Prince Light	4.9		
	Look Super	11.0		
	Look Light	4.9		
	Prince of Blends	5.8		
GREECE				
PAPASTRATOS	Old Navy	6.8		
	Astor F.	3.7		
MOROCCO				
REGIE MAROC	Casa Sport Olympic	7.0		
EGYPT				
BAT	Kent Light de Luxe	6.1	0.4	94-6
EASTERN TOB.	Cleopatra KS	7.9		
	Cleopatra 100s	12.3		
CARRERAS ROTHMANS	Rothmans KS	6.2		
GALLAHER	Silk Cut KS	6.8		
DUBAI				
CARRERAS	Craven A	6.2	0.4	94-6
ROTHMANS	Rothmans KS	7.8		
LORILLARD	Kent	6.4		
AMERICAN T.	Carlton 100	3.0		

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Manufacturer	Brand Name	Triacetin CA Filter %	TEGDA CA Filter %	Triacetin TEGDA proportions
BAHRAIN				
BAT	Kent Golden Light	5.9		
CARRERAS	Craven A	8.4		
ROTHMANS	Rothmans KS	6.0		
AMERICAN T.	Carlton	3.0	3.4	47-53
GALLAHER	Silk cut extra mild	5.1		
LORILLARD	Kent Luxe	3.2		
REYNOLDS	Winston	5.9		
LEBANON				
PMI-US-EXP	Merit	7.6		
REYNOLDS	Winston Light 100s	4.4		
SAUDI ARABIA				
AMERICAN T.	Carlton 100	2.4		
REYNOLDS	Winston KS	5.8		
BAT	Kent Golden Light	5.6		
GALLAHER	Silk Cut Extra Mild	7.8		
CARRERAS ROTHMANS	Craven A	6.4	0.4	94-6

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LEAR 1-17-2 (MLK LEAR trial 1 without Burley treatment)
LEAR 1-17-3 (100% Burley LEAR trial 1 without Burley treatment)

Analyses on these four cigarettes are in progress.

3. PILOT-PLANT

See monthly report : "Pilot-Plant Operations" April 1981, by N. Lüthi.

4. NINOMASS

The final report on the test using NINOMASS as chicken fodder was received from UFA (3). In principle, 6% NINOMASS can be used in animal fodder, but further trials are necessary to clear up some details (4).

5. MISCELLANEOUS

5.1. During the second week of April, Mr. Schulthess and the undersigned attended the Second European Congress of Biotechnology in Eastbourne (5).

5.2. A project presentation on strip-denitration was given to R&D staff by Mr. Lüthi and the undersigned on March 31.

6. REFERENCES

1. Ruf-C Monthly report : (March 1981)
2. Borgognon-D Monthly report : (April 1981)
3. Pfirter-HP : Versuchsbericht über die Prüfung von Hefe der Firma Philip Morris als Bestandteil von Geflügelmastfutter : (March 1981)
4. Karbacher-P Monthly report : (April 1981)
5. Schulthess-D and Ruf-C : "Report on the Second European Congress of Biotechnology" (April 1981)

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